

# **FASTENING MEMBER**

## **BACKGROUND OF THE INVENTION**

### **1. Field of the Invention**

The present invention relates to a fastening member, and more particularly to a fastening member that is combined with the workpieces rigidly and stably without detachment, so that the workpieces are closely combined together.

### **2. Description of the Related Art**

A conventional fastening member, such as a nail or the like, is used to combine two workpieces together. Usually, the conventional fastening member comprises a bar-shaped shank having a sharp point, and a disk-shaped head mounted on the shank. The shank is located at a center of the head. Thus, the conventional fastening member form a substantially T-shaped structure. However, the shank of the conventional fastening member has a smooth surface, so that the shank is easily detached from the two combined workpieces, thereby detaching the two workpieces.

## **SUMMARY OF THE INVENTION**

The present invention is to mitigate and/or obviate the disadvantage of the conventional fastening member.

The primary objective of the present invention is to provide a fastening member that is combined with the workpieces rigidly and stably without detachment, so that the workpieces are closely combined together.

1           Another objective of the present invention is to provide a fastening  
2 member, wherein the root portion has a first face formed with a convex  
3 arc-shaped surface and a second face formed with a concave arc-shaped  
4 surface, so that the fastening member has an enhanced structural strength.

5           A further objective of the present invention is to provide a fastening  
6 member, wherein the ratchet portions of the root portion are closely engaged  
7 with the workpieces to prevent the fastening member from detaching from the  
8 workpieces.

9           In accordance with the present invention, there is provided a  
10 fastening member, comprising a root portion, and a driven portion, wherein:

11           the root portion has a first end and a second end, the root portion has  
12 a mediate portion formed with two elongated slots; and

13           the driven portion has an end extended from the first end of the root  
14 portion.

15           Further benefits and advantages of the present invention will become  
16 apparent after a careful reading of the detailed description with appropriate  
17 reference to the accompanying drawings.

18           **BRIEF DESCRIPTION OF THE DRAWINGS**

19           Fig. 1 is a perspective view of a fastening member in accordance  
20 with the preferred embodiment of the present invention;

21           Fig. 2 is a plan cross-sectional view of the fastening member taken  
22 along line 2-2 as shown in Fig. 1;

1            Fig. 3 is a perspective assembly view showing the fastening member  
2 being combined with two articles;

3            Fig. 4 is a plan cross-sectional view of the fastening member and the  
4 two articles as shown in Fig. 3;

5            Fig. 5 is a plan cross-sectional view of the fastening member and the  
6 two articles as shown in Fig. 3;

7            Fig. 6 is a schematic operational view of the fastening member as  
8 shown in Fig. 5;

9            Fig. 7 is a partially enlarged view of the fastening member as shown  
10 in Fig. 6.

### 11            **DETAILED DESCRIPTION OF THE INVENTION**

12            Referring to the drawings and initially to Figs. 1-3, a fastening  
13 member 10 in accordance with the preferred embodiment of the present  
14 invention comprises a root portion 12 and a driven portion 14.

15            The root portion 12 is a sheet plate and has a first end 40 and a second  
16 end 42. The root portion 12 has a first face formed with a convex arc-shaped  
17 surface 16 and a second face formed with a concave arc-shaped surface 18.  
18 Thus, the root portion 12 has an enhanced structural strength. The root portion  
19 12 has a mediate portion formed with two elongated slots 22. Each of the two  
20 elongated slots 22 is extended along a longitudinal direction of the root portion  
21 12. The root portion 12 has two opposite sides each formed with a ratchet  
22 portion 26. The ratchet portion 26 of each of the two opposite sides of the root

1 portion 12 is directed toward the first end 40 of the root portion 12. The second  
2 end 42 of the root portion 12 has two opposite sides each formed with an  
3 inclined face 32 having a first end located adjacent to the respective ratchet  
4 portion 26, an oblique blade 34 having a first end extended from a second end  
5 of the inclined face 32, and a tip 28 extended from a second end of the oblique  
6 blade 34. The inclined faces 32 of the two opposite sides of the second end 42  
7 of the root portion 12 have a width smaller than that of the root portion 12.

8           The driven portion 14 has a planar shape and has an end extended  
9 from the first end 40 of the root portion 12. The driven portion 14 is vertical to  
10 the root portion 12, so that the root portion 12 is combined with the driven  
11 portion 14 to form a substantially L-shaped body.

12           In operation, referring to Figs. 1-7, the fastening member 10 is used  
13 to combine two articles 52 and 54 together. The two articles 52 and 54 are  
14 juxtaposed with each other. Then, the tip 28 of the root portion 12 of the  
15 fastening member 10 is rested on the article 52, and a striking force is applied  
16 on the driven portion 14 of the fastening member 10 by a hammer or the like, to  
17 in turn force the tip 28 of the root portion 12 of the fastening member 10 into  
18 the article 52 and the article 54.

19           At this time, the oblique blades 34 of the root portion 12 of the  
20 fastening member 10 are guided by the tip 28 to move with the root portion 12  
21 so as to cut the articles 52 and 54 successively, so that the root portion 12 of the

1 fastening member 10 is moved in the articles 52 and 54 smoothly and  
2 conveniently.

3         After the root portion 12 of the fastening member 10 is forced into  
4 the articles 52 and 54 as shown in Fig. 5, the root portion 12 of the fastening  
5 member 10 is elastically compressed inward by provision of the two elongated  
6 slots 22 to reduce the width of the root portion 12 of the fastening member 10,  
7 so that the root portion 12 of the fastening member 10 is moved in the articles  
8 52 and 54 easily and conveniently. In addition, the inclined faces 32 facilitates  
9 movement of the root portion 12 of the fastening member 10 in the articles 52  
10 and 54.

11         After the second end 42 of the root portion 12 of the fastening  
12 member 10 is detached from the articles 52 and 54 as shown in Fig. 6, the root  
13 portion 12 of the fastening member 10 is elastically expanded outward by  
14 provision of the two elongated slots 22 to restore the width of the root portion  
15 12 of the fastening member 10, so that the root portion 12 of the fastening  
16 member 10 is combined with the articles 52 and 54 rigidly and stably. In  
17 addition, the ratchet portions 26 of the root portion 12 are directed toward the  
18 first end 40 of the root portion 12 as shown in Fig. 7 to engage the articles 52  
19 and 54 closely to prevent the root portion 12 from moving back in the articles  
20 52 and 54, so that the root portion 12 of the fastening member 10 is combined  
21 with the articles 52 and 54 rigidly and stably without detachment.

1           Although the invention has been explained in relation to its preferred  
2   embodiment(s) as mentioned above, it is to be understood that many other  
3   possible modifications and variations can be made without departing from the  
4   scope of the present invention. It is, therefore, contemplated that the appended  
5   claim or claims will cover such modifications and variations that fall within the  
6   true scope of the invention.

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